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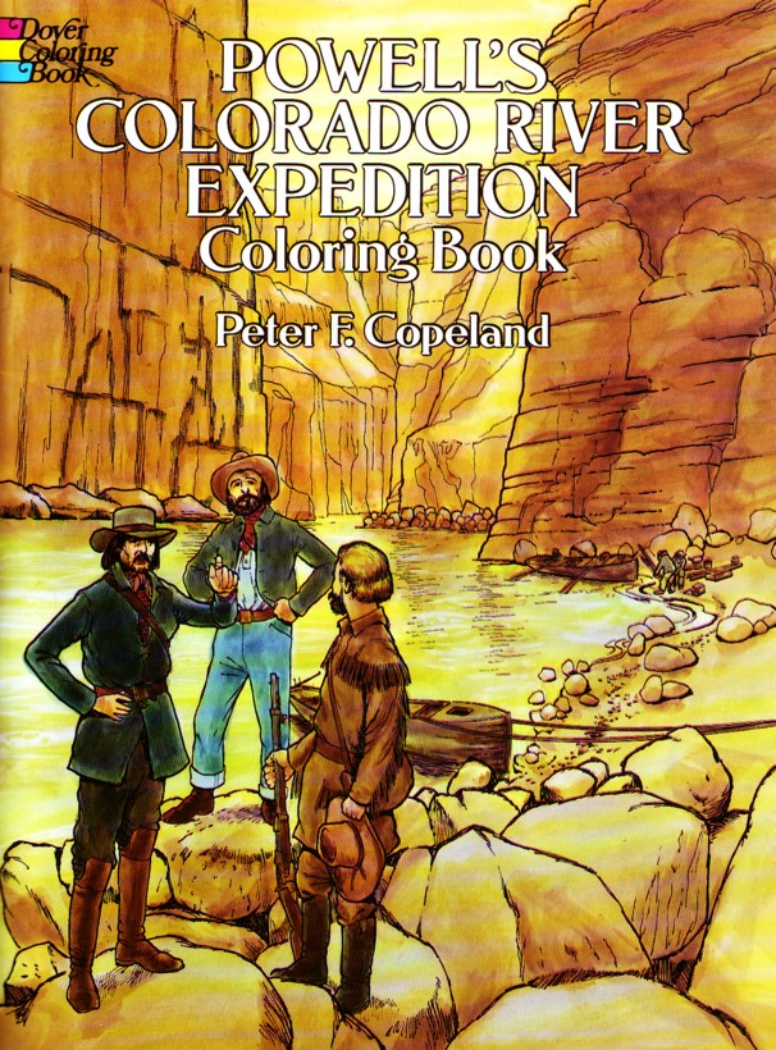
POWELL'S COLORADO RIVER EXPEDITION Coloring Book

Peter F. Copeland



INTRODUCTION

This is the story of a river—the wild Colorado—and the men who explored it. These men were among the last of the true explorers of the American wilderness.

The first really dependable map charting the American West was completed in 1860 by an army lieutenant named G. K. Warren. Although his map provided the nation with an accurate picture of the vast expanse of land that stretched all the way from the Mississippi to the Pacific, it did still contain a few blank spaces. One of these was the rugged course of the Colorado River, which rises in northern Colorado and flows over 1,400 miles southwest into the Gulf of California. It was this great area that the one-armed Civil War veteran, geology professor and ethnologist John Wesley Powell (1834–1902) determined to explore and survey. And so it was that on May 24, 1869, Powell and a group of nine geologists, geographers and scouts set out in four boats from the Green River Station, in present-day Wyoming, on their journey of exploration. On August 29 Powell and six other survivors emerged from the mouth of the Grand Canyon, having covered a distance of nearly 900 miles. But it was only in 1895 that Powell published his book *Canyons of the Colorado*, an enlarged version of the journal he had kept during the expedition. (This book is reprinted by Dover as *The Exploration of the Colorado River and Its Canyons*.) The pictures in the present book are based on those accompanying Powell's 1895 text.

Powell and his men navigated rivers, measured the height of mountain peaks, examined mineral deposits and noted flora and fauna. They laid the foundation for the future development of the valley of the Colorado, helping to complete the great exploration of the West begun over half a century before by Lewis and Clark.

Some of the wild places shown in the pictures in this book have changed as a result of the dams—at Flaming Gorge and Glen Canyon—and reservoirs that have been built in recent times along the river's course, but for much of its length the Colorado still presents magnificent landmarks undisturbed since the days of Powell's historic expedition.

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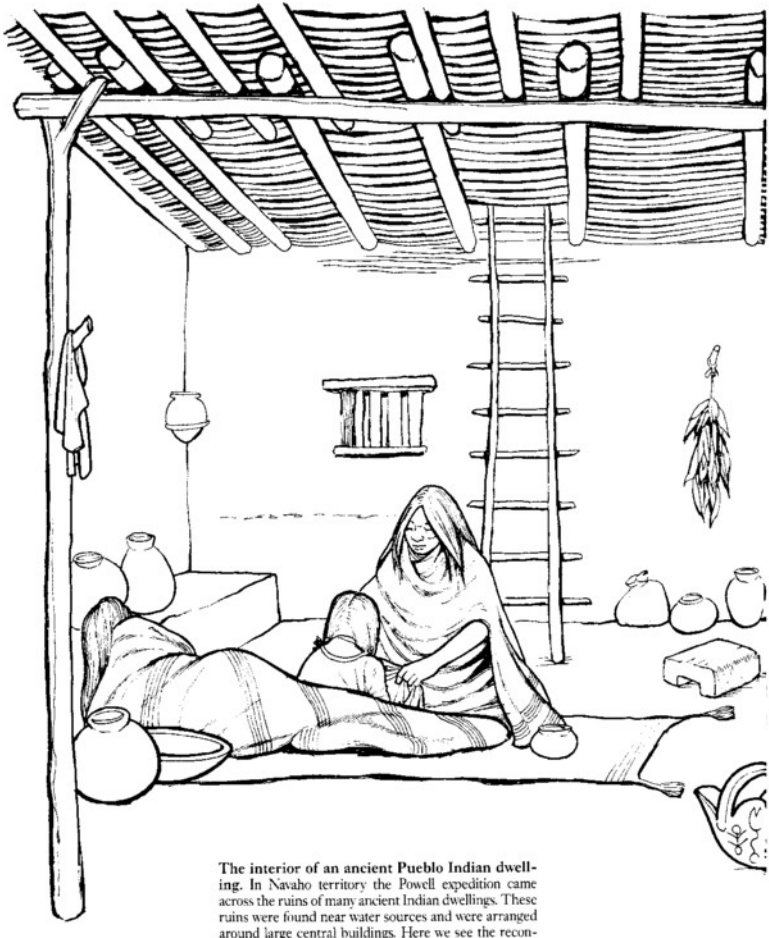
The Colorado River. In 1867 and 1868 Powell made two trips across the plains and mountains of Colorado. From a mountain peak like the one occupied by the Indian hunters seen here, he first viewed the awesome Colorado River at its confluence with the Green River in southeastern Utah (at the time, the section of the Colorado above that confluence was known as the Grand River), and made up his mind to conquer that expanse of unmapped wilderness.

Spaniards at the Mountain of the Holy Cross, Colorado. One of the most spectacular sights encountered by Powell was the Mountain of the Holy Cross, which is 13,996 feet high. According to legend, in the eighteenth century a party of Spanish monks wandering through the West came upon this spectacle. The 1,000-foot cross, which is formed by snow lying in deep crevices on the mountainside, was first photographed in 1873 by the great Western photographer William H. Jackson.

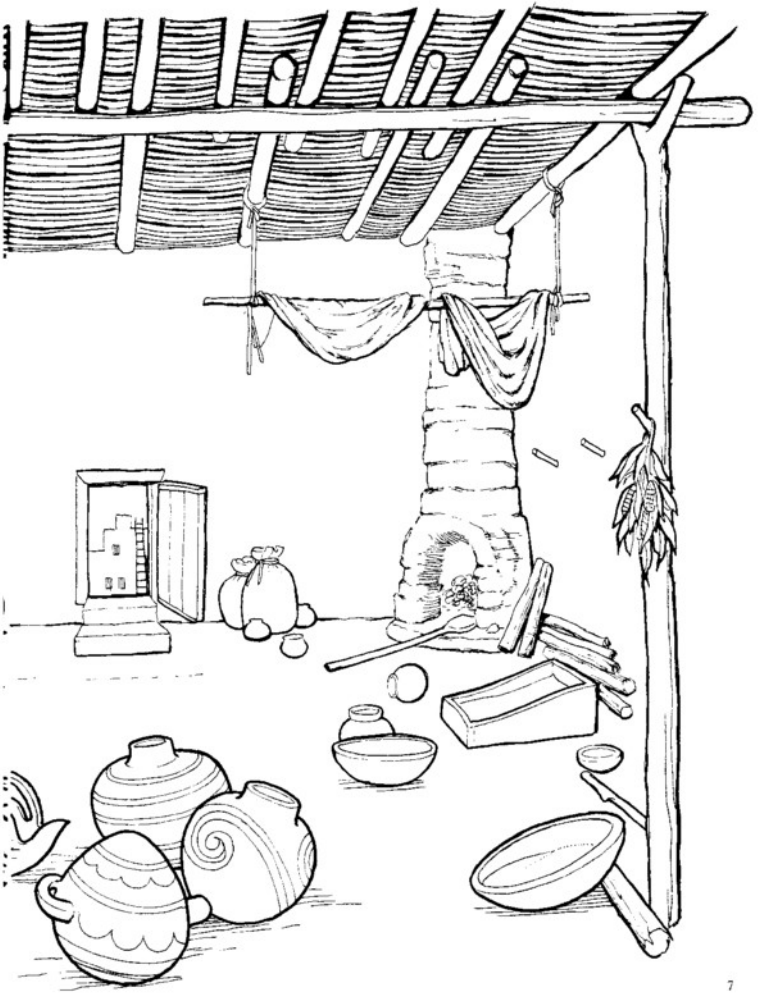
Powell's camp on the Green River, Wyoming. The expedition's plan was to travel down the Green River to the Colorado, and from there to the foot of the Grand Canyon. Powell set out with four oak boats that had been specially built in Chicago and transported by rail to the spot where the Union Pacific Railroad crosses the Green River. The party took enough rations to last ten months, as well as clothing, ammunition, traps, tools and scientific instruments (including sextants, chronometers, barometers, thermometers and compasses).

Navaho Indians. Traveling along the Little Colorado and San Juan Rivers, Powell entered the lands of the Navaho in northeastern Arizona and northwestern New Mexico. The Navaho migrated to the Southwest from Canada over 500 years ago, but they have been strongly influenced by the Pueblo Indians with whom they came into contact. Here we see two Navaho braves: the one on the right in traditional dress, the other in that adopted by the tribe in the late nineteenth century.

A Navaho hogan. Unlike the Pueblo Indians, the Navaho lived in dwellings scattered over large areas. This hogan is constructed of poles arranged in a conical fashion with a covering of reeds and earth. More modern hogans are built of stone.

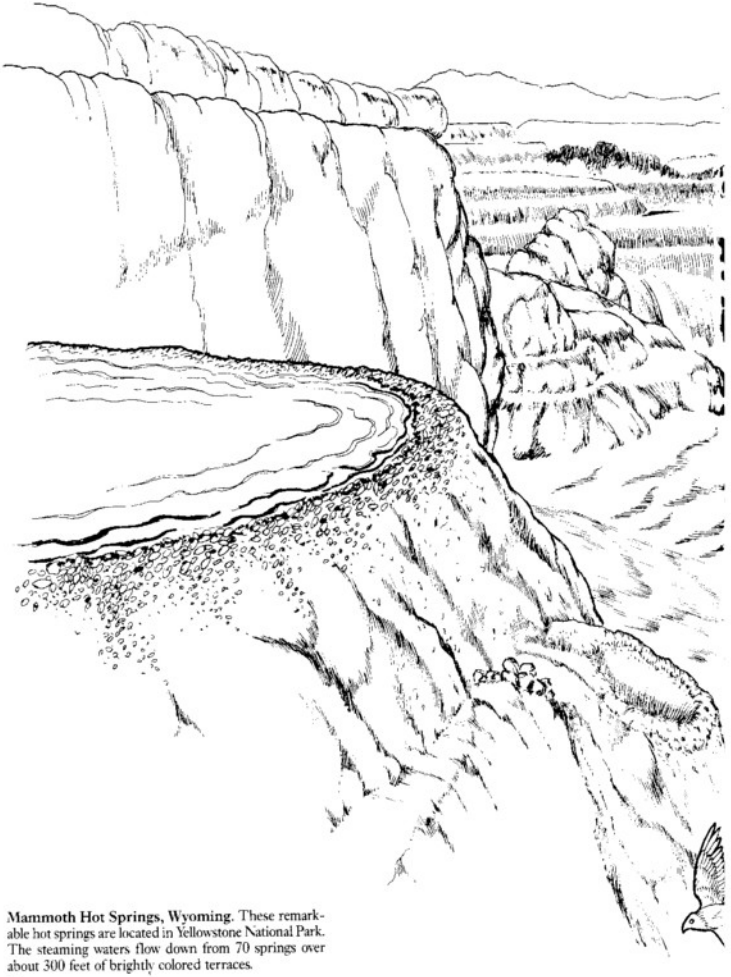


The interior of an ancient Pueblo Indian dwelling. In Navaho territory the Powell expedition came across the ruins of many ancient Indian dwellings. These ruins were found near water sources and were arranged around large central buildings. Here we see the reconstructed interior of such a dwelling, with a hearth and decorated earthenware pots.



A Pueblo village street scene. The ancient Pueblo people were displaced by the migrating Navaho. They belonged to a fairly advanced civilization similar in some ways to the Aztec and Maya civilizations of Central America. Their houses were built either of stones cemented together with adobe (a heavy clay) or of adobe bricks. These dwellings were usually several stories high and, for defensive purposes, had no doors on the ground floor. Ladders, which could be removed in times of danger, led to the upper levels.

An Indian guide and his son. Powell was not only a geographer and geologist, but also an ethnographer. His book *Canyons of the Colorado* contains many references to the customs, traditions and daily life of the various tribes inhabiting the Southwest. He relied upon Indian guides to lead him through the difficult terrain.

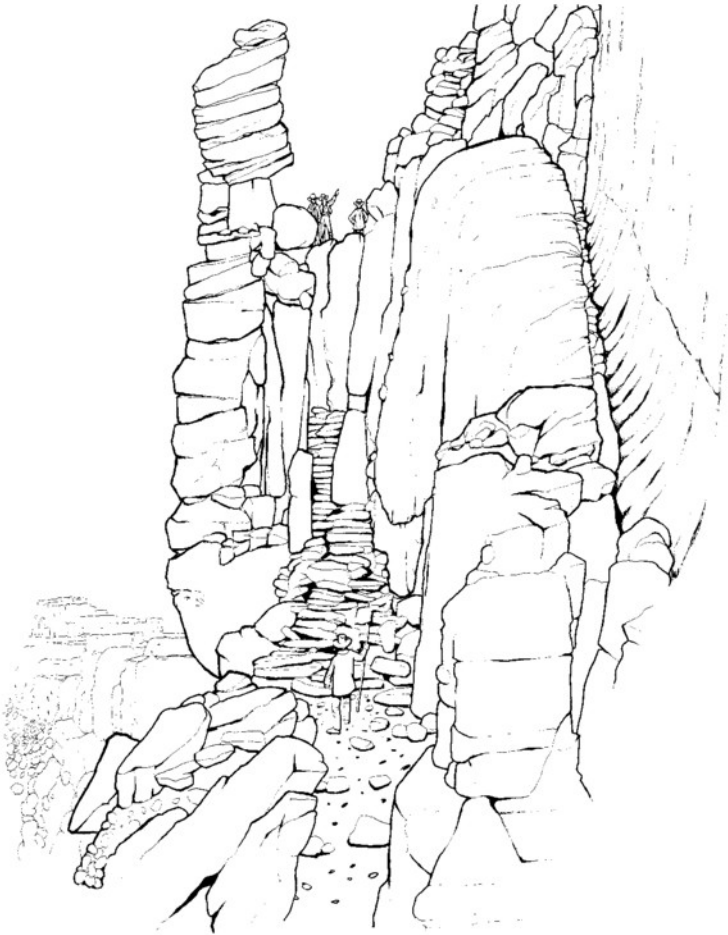


Mammoth Hot Springs, Wyoming. These remarkable hot springs are located in Yellowstone National Park. The steaming waters flow down from 70 springs over about 300 feet of brightly colored terraces.

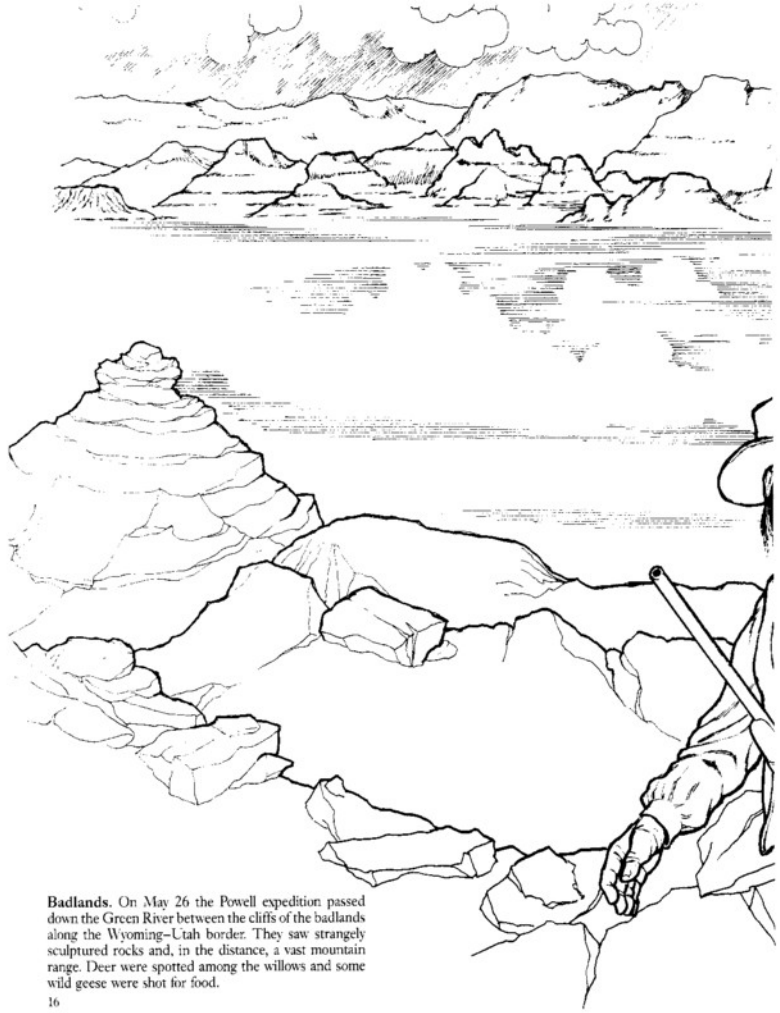
The Gray Cliffs. This weird landscape of sandstone cones and domes, which have weathered gray or even white, was created long ago by volcanic activity. The cliffs run through a vast area of tablelands made up of large plateaus, mesas and buttes that forms the northern boundary of the Grand Canyon.

An ancient cliff dwelling. This dwelling was discovered by Powell in the Ute Indian territory of northern Arizona. It is one of the traces of a vanished agricultural society about which very little is known.

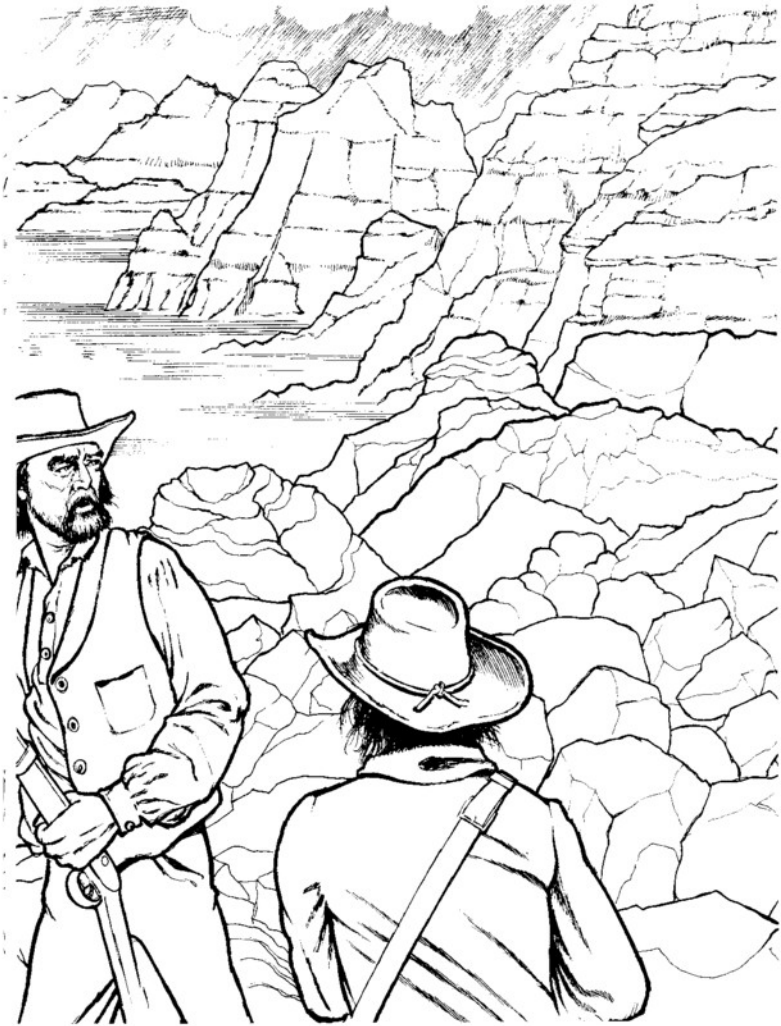
A Zuni eagle cage. The Zuni, a people of unknown origin, were pueblo dwellers living in western New Mexico. They domesticated eagles for hunting purposes. The woman seen here is wearing modern Zuni dress; she is carrying a basket of flour on her head.



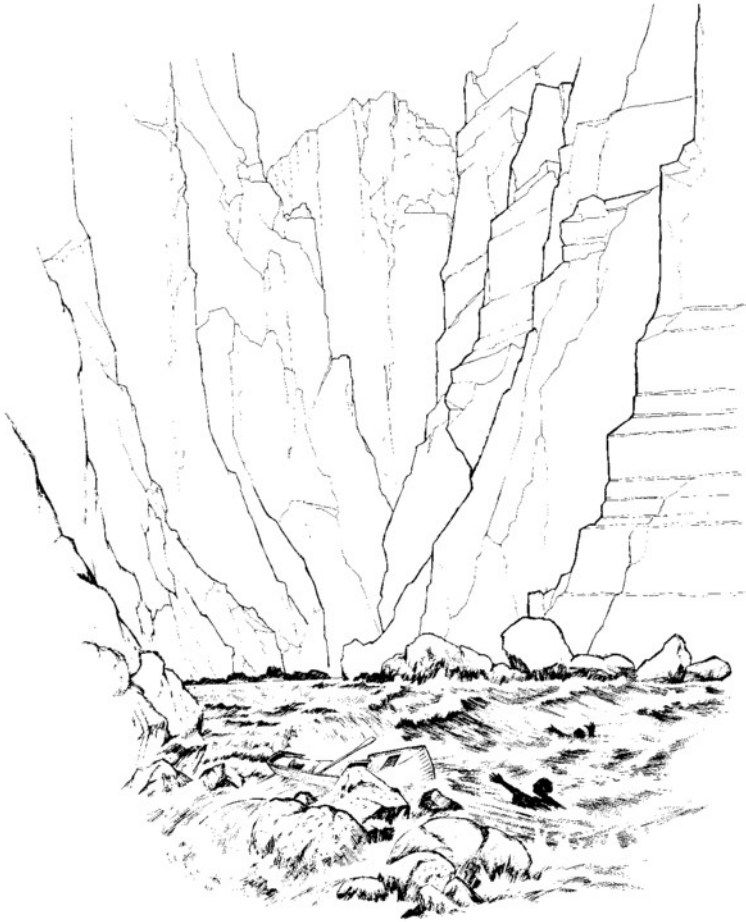
The trail up Walpi mesa, northeastern Arizona. Powell and his men hiked up the steep Walpi mesa to visit the Hopi Indian pueblo situated on its edge. The pueblo is 600 feet above the plain on which the Hopi grow their crops. Powell was astounded to find that the Indians transported water and firewood up the mesa by donkey.



Badlands. On May 26 the Powell expedition passed down the Green River between the cliffs of the badlands along the Wyoming–Utah border. They saw strangely sculptured rocks and, in the distance, a vast mountain range. Deer were spotted among the willows and some wild geese were shot for food.

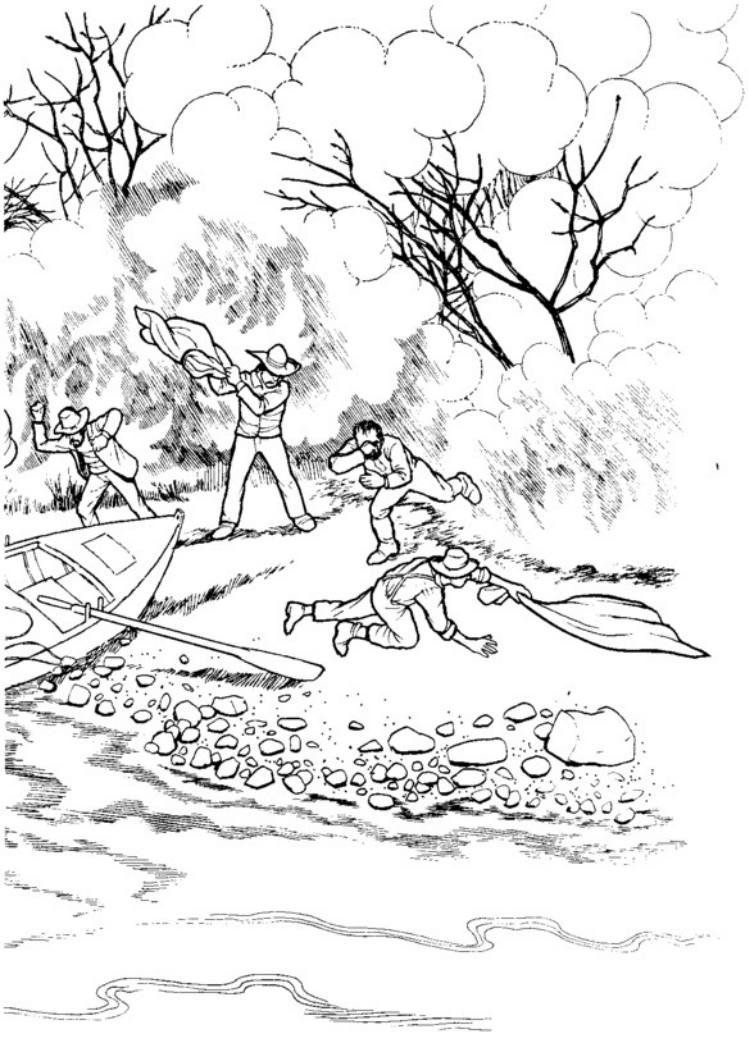


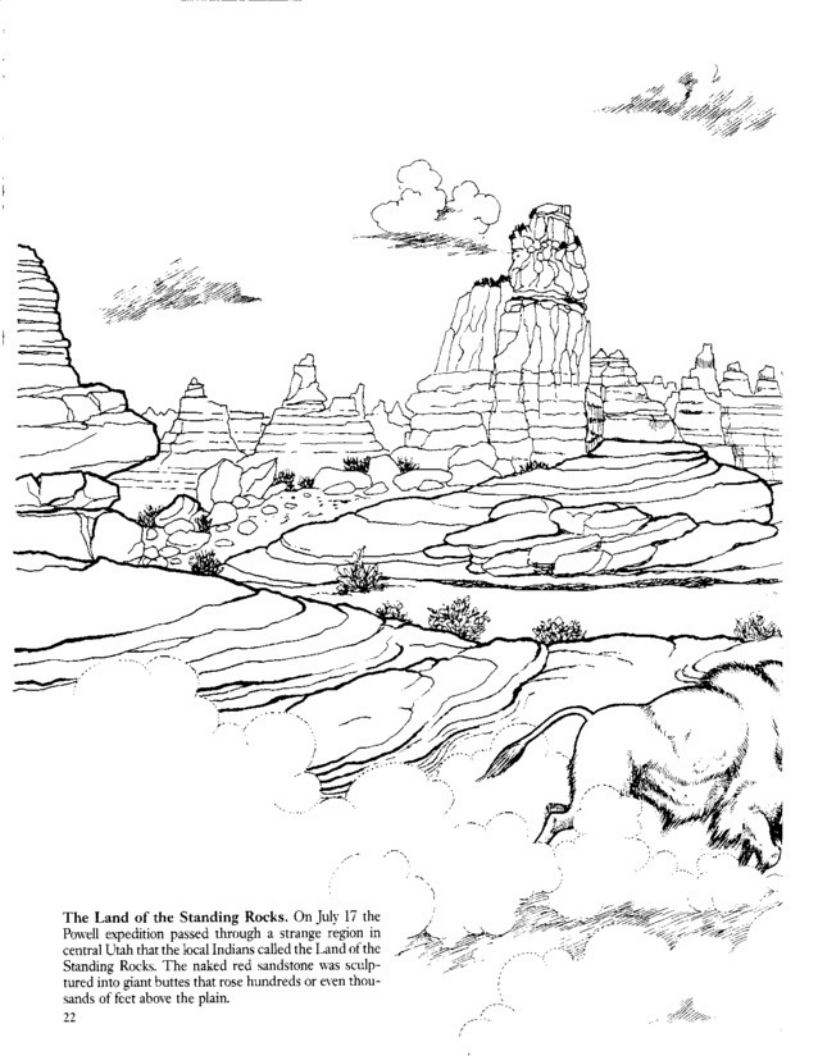
The camp at Flaming Gorge, northeastern Utah. Arriving at the foot of the Uinta Mountains, Powell set up camp at Flaming Gorge, so named for the brilliant vermilion rocks rising to a height of 1,200 feet. Powell had been warned that the river could not be navigated beyond this point, and it was here that he had his first experience of deadly canyon rapids.



A wreck at Disaster Falls. On June 9, while traveling through the Canyon of Lodore, the expedition lost one of its boats at Disaster Falls, where a series of falls plunges over 600 feet in a narrow channel. Although all the rations and clothing on the boat were lost, Powell's men, much to his relief, were able to salvage the barometers—crucial instruments for determining altitudes.

Fire in the camp. While Powell was off exploring a little creek alcove in the Canyon of Lodore, a whirlwind scattered the party's campfire among some dead willows. Although the men were able to save their boats, much of their gear was destroyed.

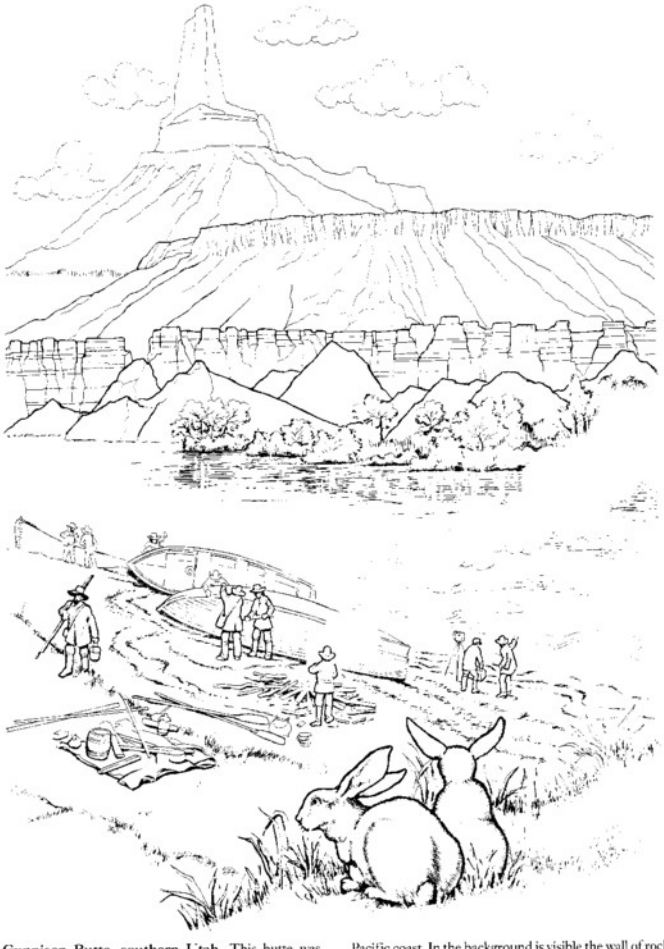




The Land of the Standing Rocks. On July 17 the Powell expedition passed through a strange region in central Utah that the local Indians called the Land of the Standing Rocks. The naked red sandstone was sculptured into giant buttes that rose hundreds or even thousands of feet above the plain.

The rescue. Powell, who had lost the lower half of his right arm at Shiloh during the Civil War, had a nearly fatal mishap while scaling Echo Rock, on the Green River. His companion on the climb, George Bradley, was able to rescue Powell by hauling him up to a safe ledge by using his own underwear as a makeshift rope.

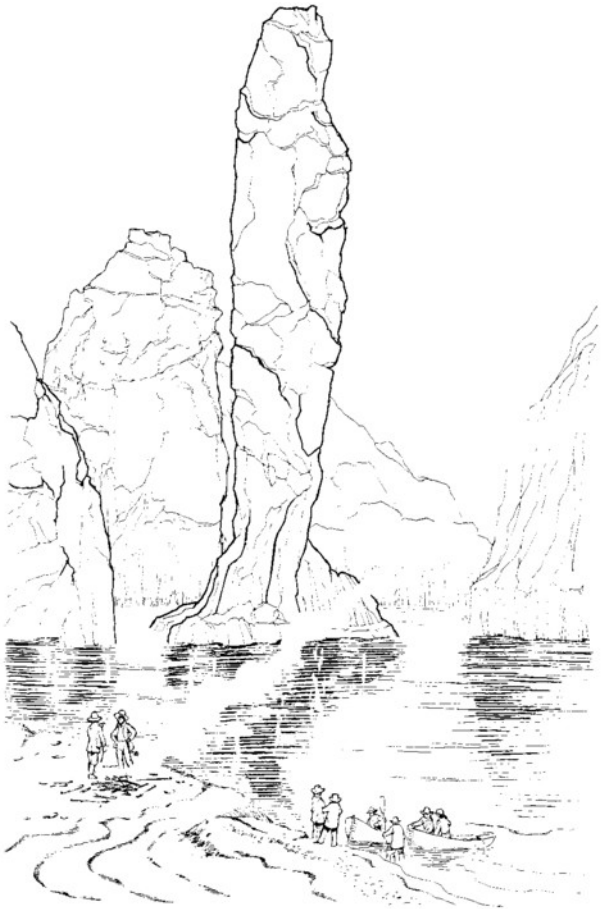
A Ute Indian lodge. When Powell visited a Ute Indian reservation in the Uinta Valley, Utah, he found that the Indians cultivated the land quite extensively. Among other crops, they grew wheat, potatoes, turnips and melons. In front of the lodge depicted here can be seen a Ute warrior and his bride.



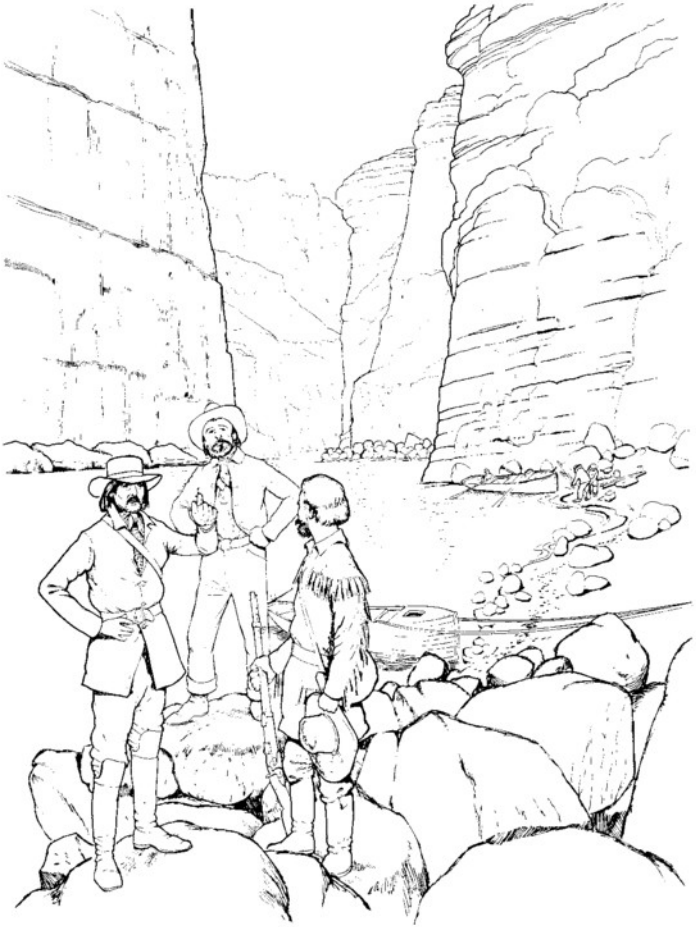
Gunnison Butte, southern Utah. This butte was named after John Williams Gunnison (1812–1853), who in 1853 crossed it while exploring a railroad route to the Pacific coast. In the background is visible the wall of rock that separates the tablelands through which Gray Canyon runs from the plain.

Water Pocket Canyon, southern Utah. Here an expedition member is shown sketching the smooth contours of Water Pocket Canyon, a defile sliced through the rocks by a tributary stream of the Escalante River.

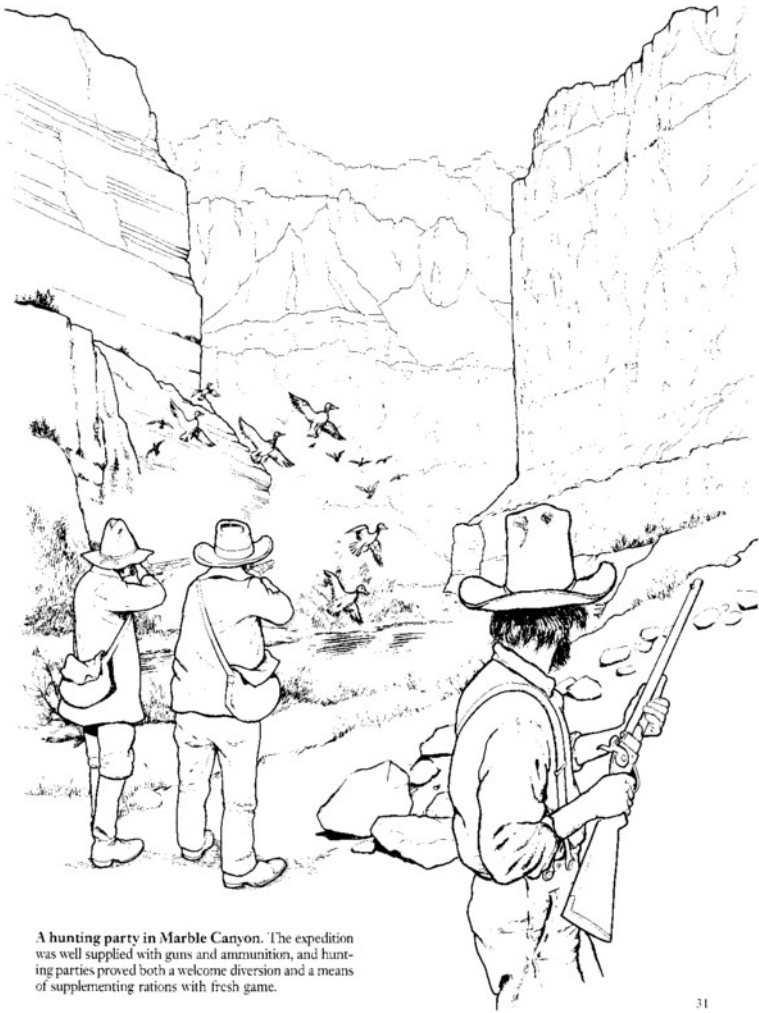
Ruins on the brink of Glen Canyon, southern Utah. These ancient ruins stand on the edge of a rock 200 feet high. The walls are of stone, which is bedded in mortar. Powell found arrowheads and pottery fragments on this site, and there were many etchings on the face of the cliffs below the building and along the river.



Glen Canyon. At the beginning of August, Powell entered Glen Canyon. This canyon is 149 miles long and its walls vary in height from 200 to 1,600 feet. The monument-shaped butte seen here is typical of the strange rock formations—including arches, glens, alcoves and gulches—that characterize the area.



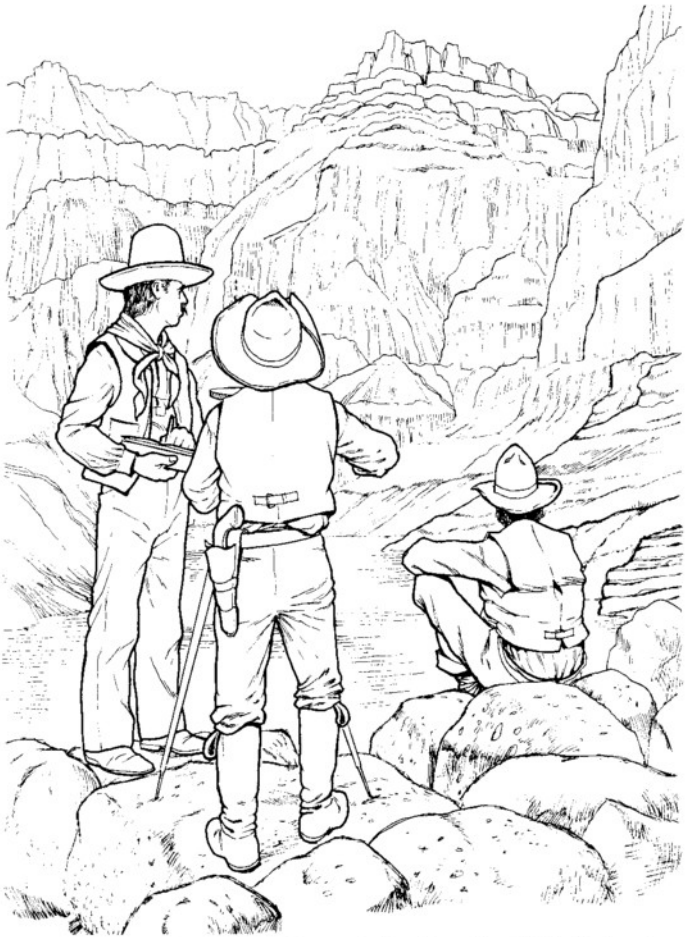
Noonday rest in Marble Canyon, northern Arizona. Passing into Marble Canyon on August 8, Powell was astounded by the beauty of the limestone walls, which rose 2,500 feet in places. The rock faces were multicolored—white, gray, pink and purple—and polished at the bottom by the water. Powell recorded: "At one place I have a walk for more than a mile on a marble pavement, all polished and fretted with strange devices."



A hunting party in Marble Canyon. The expedition was well supplied with guns and ammunition, and hunting parties proved both a welcome diversion and a means of supplementing rations with fresh game.

The mouth of the Little Colorado River, northern Arizona. Powell arrived here on August 30. The mouth of the Little Colorado lies on the northeastern edge of the Grand Canyon. In the foreground is an Indian travois—a vehicle for transporting heavy loads—made of two trailing poles tied at one end and a platform running crosswise.

Running the rapids. On its way toward the Grand Canyon the expedition often had to run the rapids between towering cliff walls. Powell wrote of one such experience: "Hurled back from a rock, now on this side, now on that, we are carried into an eddy, in which we struggle for a few minutes, and are then out again, the breakers still rolling over us."

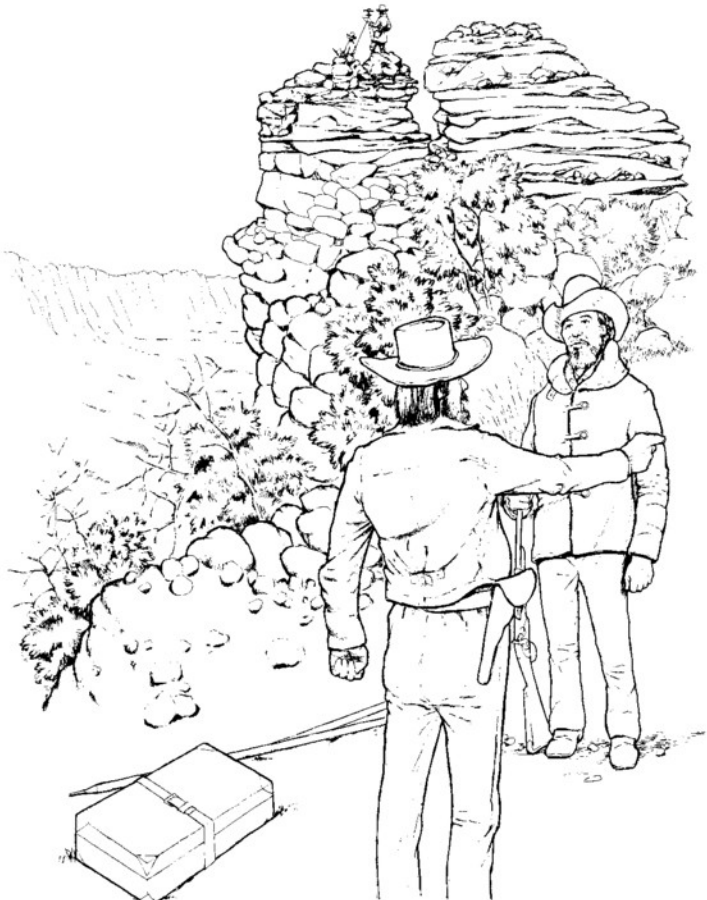


The head of the Grand Canyon, Arizona. Expedition members are here using a theodolite, taking precise bearings at the entrance to the Grand Canyon. The canyon had first been sighted over 300 years before by the Coronado expedition of 1540, but it had never been explored. On August 13 Powell wrote: "We are now ready to start on our way down the Great Unknown."

An Indian peace signal. In his book *Canyons of the Colorado* Powell gathered several illustrations depicting Indian methods of communicating over long distances. These included ways of signaling a successful war party and, as here, peace.

The Moki Indian method of dressing hair. Every aspect of native Indian life interested Powell, who later did important work classifying American Indian languages. He recorded Indian methods of weaving, woodworking, seed gathering, basketry and pottery. The Moki Indians, shown here, were pueblo dwellers.

Climbing the Grand Canyon wall. "I am not sure that we can climb out of the canyon here," Powell wrote, looking up the steep and treacherous canyon wall. "But for years I have been contemplating this trip. To leave the exploration unfinished . . . is more than I am willing to acknowledge, and I determine to go on."



A triangulation station. The expedition members are making camp and setting up measuring instruments to determine their precise location and plot their future course. When at such a campsite, the men would collect rock samples and flora and fauna.

A surveying party. Powell's aim in exploring the Colorado was to add to the sum of knowledge in the fields of geology, botany, ethnology and geography. Much time was spent surveying—measuring altitudes and mapping the course of the river.

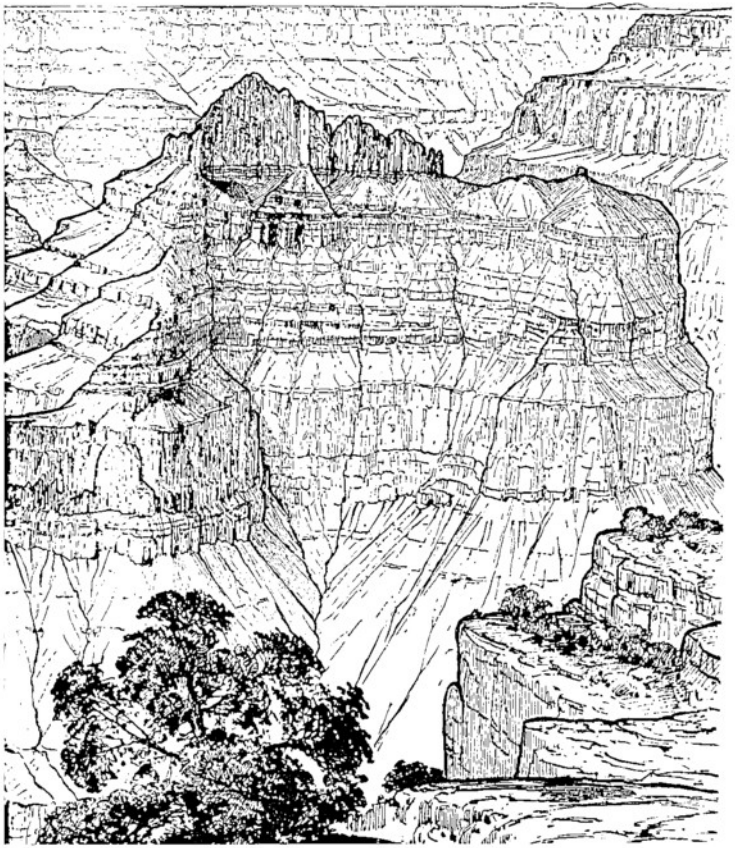
Mukun'tuweap (Straight) Canyon, Arizona. A stream that joins the Virgin River runs through this canyon. Powell noted that the high buttes and pinnacle rocks on the canyon's western side were visible 60 to 70 miles to the southwest.

The Navaho Church. In the foreground can be seen a Navaho brave wearing the kind of silver ornaments for which his tribe is well known. He is standing in front of the tower rock known as the Navaho Church, near Fort Wingate, New Mexico.

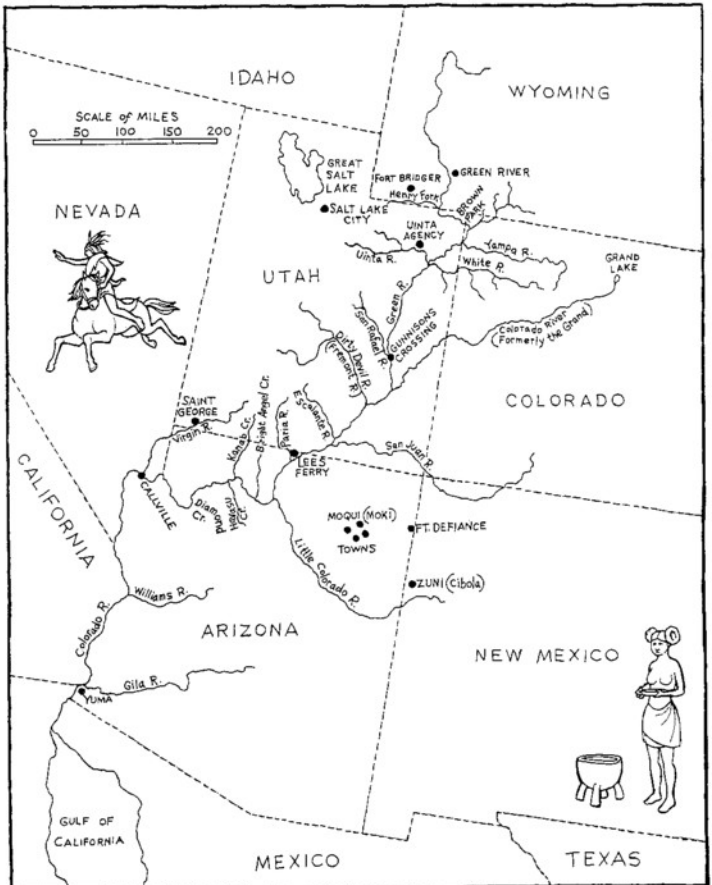
The Grand Canyon. This canyon, which is 217 miles long, forms part of the Colorado Plateau and is cut by the Colorado River. It extends from Marble Gorge to the Grand Wash Cliffs; in places it is 5,300 feet deep. The canyon's walls are made up mainly of limestone, fresh-water shales, cemented sandstone, granite and schist. The rock strata, laid down over millions of years, have given scientists invaluable clues to the geological evolution of the earth.

Granite Falls, Kaibab Division, Grand Canyon. Traveling through the Grand Canyon, Powell found that it consisted of three distinct sections: the Kaibab, the Kanab and the Shiwits. The Kaibab is characterized by many buttes and pinnacles; the Kanab has straight walls and volcanoes on the brink; the Shiwits is divided into terraces.

A panorama of the Grand Canyon. "The wonders of the Grand Canyon cannot be adequately represented in symbols of speech," wrote Powell. In this panorama it can be seen that the canyon is in fact a labyrinthine mass of smaller canyons, gorges and ravines, all formed by rivers



and rain. The main canyon ranges in width from four to 18 miles. Its general color is red, but the strata vary from buff, gray, green and brown to violet. The area contains many prehistoric ruins of pueblos and cliff dwellings. The Grand Canyon National Park was created in 1919.



Map of the area covered during the Powell Expeditions, 1869–1872